

**EXHIBIT 5-c to PLAINTIFFS’
APPENDIX OF EXPERT REPORTS**

From: ct2_opioid_team@mail-list.com on behalf of [Christenson, Monique](#)
To: ct2_opioid_team@mail-list.com
Subject: [CT2_Opioid_Team] CT2 Expert Reports
Date: Thursday, August 13, 2020 11:18:42 AM
Attachments: [Keyes, Katherine MDL CT2 input calculations.xlsx](#)

Good Morning,

Attached please find documentation related to Dr. Keyes' CT2 report. Additional materials related to Dr. Alexander will be provided via the designate ShareFile link by the end of the day.

Best Regards,

Monique

Monique Christenson | Attorney at Law | Motley Rice LLC
28 Bridgeside Blvd. | Mt. Pleasant, SC 29464
o. 843.216.9366 | f. 843.216.9450 | mchristenson@motleyrice.com

[Confidential & Privileged](#)

Unless otherwise indicated or obvious from its nature, the information contained in this communication is attorney-client privileged and confidential information/work product. This communication is intended for the use of the individual or entity named above. If the reader of this communication is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error or are not sure whether it is privileged, please immediately notify us by return e-mail and destroy any copies--electronic, paper or otherwise--which you may have of this communication.

Post your message to the list by sending it to CT2_Opioid_Team@mail-list.com.

*To contact the list owner, send your message to
CT2_Opioid_Team-list-owner@mail-list.com.*

mail-list.com 1302 Waugh Dr. #438 Houston, Texas 77019 USA

*To unsubscribe or change your email address, click here.
https://member.mail-list.com/u?ln=ct2_opioid_team&nm=jremuszka%40lchb.com*

Assumption 1: death rate among OUD cases is approximately equivalent to meta-analysis
 All opioid death rate per 100,000 PY 0.0052

Assumption 2: death rate when fentanyl exposed is approximately three times non-fentanyl dea
 Fentanyl death rate 0.0156

Drug overdose deaths (CDC WONDER)		2006	2007
	National	34387	35977
	West Virginia	362	397
	Cabell County, WV	28	40

Proportion of drug overdose deaths involved a synthetic opioid (T40.4) versus all others (CDC WONDER)		2006	2007
National	Involving T40.4	0.08	0.06
	Not involving T40.4	0.92	0.94
West Virginia	Involving T40.4	0.14	0.2
	Not involving T40.4	0.86	0.8
Cabell County, WV	Involving T40.4	0.18	0.13
	Not involving T40.4	0.82	0.87

OUD population size dividing death rate by estimated death rate among users weighting high risk and low risk groups by proportion of deaths*		2006	2007
National	OUD Population	5700763	6177370
	Total Population	298379912	301231207
	OUD Prevalence	0.01910572	0.02050707
West Virginia	OUD Population	54387	54533
	Total Population	1827912	1834052
	OUD Prevalence	0.029753621	0.02973362
Cabell County, WV	OUD Population	3959	6105
	Total Population	94943	95059
	OUD Prevalence	0.041698703	0.06422327

* Formula is to multiply the death rate by proportion of deaths at that rate, and add it to the de

** interpolation between 2008 and 2010 because of data suppression

death rate (based on existing literature)

2008	2009	2010	2011	2012	2013	2014
36395	36969	38290	41314	41482	43944	47023
458	226	512	635	557	570	627
30	NA	29	41	27	48	50

2008	2009	2010	2011	2012	2013	2014
0.06	0.07	0.08	0.06	0.06	0.07	0.12
0.94	0.93	0.92	0.94	0.94	0.93	0.88
0.19	0.19	0.2	0.16	0.16	0.17	0.19
0.81	0.81	0.8	0.84	0.84	0.83	0.81
0.33	0.25	0.17	0.12	0.19	0.1	0.22
0.67	0.75	0.83	0.88	0.81	0.9	0.78

2008	2009**	2010	2011	2012	2013	2014
6249141	6236336	6347812	7093750	7122596	7412955	7292649
304093966	306771529	308745538	311591917	313914040	316128839	318857056
0.02055003	0.02032893	0.02056001	0.02276616	0.02268964	0.02344916	0.02287122
63824	31494	70330	92512	81148	81803	87375
1840310	1847775	1852994	1855364	1855413	1854304	1850326
0.03468111	0.01704428	0.03795479	0.04986191	0.04373582	0.0441152	0.04722141
3475	3819	4162	6359	3763	7692	6677
95209	96040	96319	96653	96974	97133	97109
0.03649865	0.03976468	0.04321058	0.06579206	0.03880422	0.07919039	0.06875779

death rate times proportion of death at that rate, then divide the total number of drug overdose

2015	2016	2017	2018
52382	63624	70183	67326
725	884	974	856
79	97	145	115

2015	2016	2017	2018
0.18	0.31	0.41	0.47
0.82	0.69	0.59	0.53
0.3	0.49	0.63	0.64
0.7	0.51	0.37	0.36
0.42	0.61	0.81	0.84
0.58	0.39	0.19	0.16

2015	2016	2017	2018
7406957	7552707	7415786	6673870
321418820	323127513	325719178	327167434
0.02304457	0.02337377	0.02276742	0.02039894
87139	85859	82880	72200
1844128	1831102	1815857	1805832
0.04725214	0.04688925	0.04564236	0.03998157
8257	8403	10643	8252
96844	95987	94958	93224
0.08526083	0.0875431	0.11208113	0.08851798

deaths by that adjusted population rate